A CALCIPHILE VARIETY OF ANDROMEDA GLAUCOPHYLLA.

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The common *Andromeda* of eastern America, *A. glaucophylla* Link.[1] is characteristic of acid peat and inundated sphagnous bogs. So generally is this the case that, in 1910, when Professor Wiegand and the

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[1] *A. glaucophylla* Link, Enum. Pl. Hort. Berol. pars. i. 394, was listed in the enumeration immediately after *A. Polifolia* with which Link obviously did not consider it identical. Link's description was as follows:

"3960. A. GLAUCOPHYLLA. Foliis linearibus margine revolutis subtus albidis, floribus aggregatis terminalibus, pedunculis corolla ovata parum majoribus, antheris versus apicem aristatis. A. polifolia β *Pursh am.* i. 291. Differt a praecedente cui similis pedunculorum magnitudine, qui in illa duplo longiores corolla et ultra. Folia subtus alba nec tomentosa. Glandulae inter stamina."

From this it would appear that Link was giving a specific name to *A. Polifolia* β of Pursh. The latter plant, as Pursh's treatment shows, was the earlier published *A. Polifolia, α latifolia* Ait. Hort. Kew. ii. 68 (1789) from North America, as contrasted with his *A. Polifolia β media*, the "Common Marsh Andromeda, or Wild Rosemary" of Britain. As already shown by the present writer in Rhodora, v. 67–71 (1903), the European *Andromeda Polifolia* differs in many characters from the common American plant, *A. Polifolia* with us being an arctic and subarctic species of very doubtful occurrence along the northern borders of the United States. In addition to definite fruit-characters, the common American plant differs from the European in its more glaucous new shoots and mature foliage, its shorter thicker pedicels (rarely twice as long as the corolla; the pedicels of *A. Polifolia* being 2–4 times as long as the corolla), in more spreading whitish sepals, and in having the lower surfaces of the leaves very minutely tomentulose (under a strong lens), not glabrous as in the European species. The writer has previously identified the common American shrub with Link's *A. glaucophylla;* but recently Dr. J. K. Small, asserting that *A. glaucophylla* is true *A. Polifolia*, has described the common American plant as a new species, *A. canescens* Small in N. A. Fl. xxix. pt. 1, 61 (1914). As leading characters of his new species, *A. canescens*, Small recognizes the "pedicels once or twice as long as the corolla or capsule" as opposed to *A. Polifolia* with "pedicels several times as long as the corolla or capsule" and calyx with "lobes. . .usually whitish and spreading" as opposed to *A. Polifolia* with "lobes. . .usually reddish or pale, and ascending."

In thus reducing Link's *A. glaucophylla* to *A. Polifolia* with very long pedicels and ascending reddish calyx-lobes, it would seem that Dr. Small has laid emphasis upon only a minor point in Link's description; for, as indicated by its most pronounced characters, Link was clearly describing, as were Aiton and Pursh before him, the common American species recently rechristened *A. canescens*. Thus, in his account Link very particularly emphasizes the short peduncles, saying: "peduncles little longer than the ovate corolla," and again "Differs from the preceding [*A. Polifolia*] to which it is similar, in the length of the peduncles, which in that [*A. Polifolia*] are twice as long as the corolla and more." Furthermore, in the description of *A. Polifolia α latifolia* Ait. or *β latifolia* Pursh, the earlier published plant to which Link gave the binomial *A. glaucophylla*, both Aiton and Pursh emphasized the calyx-character which distinguishes Small's *A. canescens*, both saying: "laciniis calycinis patentibus ovatis albis." The contradictory, or possibly contradictory statement is Link's "Folia subtus alba nec tomentosa." If this comment contrasted *A. glaucophylla* with the preceding species, it alone would indicate the possibility that Link's species is *A. Polifolia;* if, on the other hand, it was meant to contrast *A. Polifolia* with *A. glaucophylla* there is no dilemma. In view of the short peduncles and the spreading white calyx-lobes emphasized in the original descriptions of *A. glaucophylla* or of *A. Polifolia β latifolia* Pursh (or *α latifolia* Ait.) upon which it rests, there had appeared to the writer were botanizing on the west coast of Newfoundland, it was a great surprise to find the species, very dwarfed but freely fruiting, on the limestone barrens about Ingornachoix Bay. In fruit the material from the limestone barrens seemed inseparable from the dwarfest extremes of the common plant of acid peats; but in 1914 Mr. Harold St. John and the writer were fortunate enough to find a dwarfed plant, which was quite similar in aspect to the Ingornachoix Bay material, forming extensive mats on the limestone tableland of Table Mountain, back of Port à Port Bay. There the tiny shrub was associated, as it was about Ingornachoix Bay, with very characteristic calciphiles: *Equisetum variegatum* Schleicher, *Poa alpina* L., *Kobresia caricina* Willd., *Juncus triglumis* L., *Tofieldia palustris* Huds., *Salix vestita* Pursh, *Anemone parviflora* Michx., *Lesquerella arctica* (Richardson) Watson, var. *Purshii* Watson, *Saxifraga oppositifolia* L., *Potentilla nivea* L., *Dryas integrifolia* Vahl., *Viola nephrophylla* Greene, *Lobelia Kalmii* L., *Erigeron hyssopifolius* Michx., etc.— an association of plants which we never find in the acid peats and sphagnous bogs where typical *Andromeda glaucophylla* abounds.

On Table Mountain the Andromeda was in full flower and we were at once impressed by the fact that the corolla was much shorter than in the familiar bog-shrub, and oblate-globose in form, shorter than broad; the longer corolla of typical *A. glaucophylla* being ovoid-urceolate. In typical *A. glaucophylla,* furthermore, the anthers are pale brown in color; in the Table Mountain plant purple or purplish-black and unusually short, while the filaments, too, are shorter and broader-based than in the plant on the acid bogs. One other character, apparently *post mortem,* is of interest. In practically all the specimens of the Table Mountain plant with oblate-globose corollas and purple anthers, the corollas, under pressure, have split deeply into five lobes, so that in the herbarium-material the corollas have become campanulate, thus strongly suggesting those of *Cassiope.*

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writer to be no real doubt that Link was describing the common American representative of the European species; but on account of the different interpretation by Dr. Small, it has seemed wise to have the type of Aiton's var. *latifolia,* upon which *A. glaucophylla* rests, examined. This was kindly undertaken by Mr. S. F. Blake, who in a letter of February 3, 1915, wrote: "α *latifolia* Ait. Type (ex. Hort. Pitcairne, 1778) is *A. glaucophylla* of Manual, ed. 7, with oblong slightly revolute leaves tomentulose beneath, the larger 3–4 cm. × 6–10 mm. Tracing sent."

Whether Link had material which was essentially different from that of Aiton cannot now be readily determined, but in view of the emphasis given by Link to the short peduncles and the clear identification of Aiton's var. *latifolia,* there seems no reasonable doubt that *A. canescens* Small is *A. glaucophylla* Link.

In very rare instances short subglobose corollas occur on the bog plant with pale anthers, and in one case typical *A. glaucophylla* has been seen with a tendency to *post mortem* splitting of the corolla; but, differing from the true *A. glaucophylla* in its almost unique corolla and anther-characters, the plant of the Newfoundland limestones seems to be worthy at least varietal designation.

In its very reduced foliage and in its fruit and its spreading whitish calyx-lobes the limestone plant is quite inseparable from dwarfed extremes of true *A. glaucophylla.* In fact, the original material of Aiton's *A. Polifolia γ angustifolia,* which was collected by Sir Joseph Banks at Croque in northeastern Newfoundland and which has been compared for the writer by Mr. Blake, is quite inseparable from the Table Mountain plant in its foliage; but most unfortunately the Aiton type is quite destitute of flowers. Pursh, taking up Aiton's γ *angustifolia* as α *angustifolia,* said: "I strongly suspect the variety α to be a distinct species which might be called *A. rosmarinifolia*"; but owing to the lack of flowers on the Aiton material it is now quite impossible to say whether it is a dwarf form of true *A. glaucophylla* or the plant of Table Mountain. Under these circumstances the Table Mountain plant may be called

ANDROMEDA GLAUCOPHYLLA Link., var. **iodandra,** n. var., depressa, ramis 0.3–1.5 dm. altis; foliis linearibus 1–2.4 cm. longis valde revolutis; corollis oblato-globosis 3–4 mm. longis in statu siccato campanulatis valde lobatis; antheris purpureis vel atropurpureis 0.6–0.8 mm. longis, filamentis 1.4 mm. longis basi latis.

Depressed; the branches 0.3–1.5 dm. high: leaves linear, 1–2.4 cm. long, strongly revolute: corolla oblate-globose, 3–4 mm. long, in the dried condition campanulate and deeply lobed: anthers purple or purplish-black, 0.6–0.8 mm. long; filaments 1.4 mm. long, broad at base.— NEWFOUNDLAND: in humus or turf on the limestone tableland, altitude 200–300 m., Table Mountain, Port à Port Bay, July 16 and 17, 1914, *Fernald & St. John,* no. 10,857 (TYPE in Gray Herb.). Fruiting specimens from dry rocky limestone barrens, near sea-level, Ingornachoix Bay, August 2 & 4, 1910 (*Fernald & Wiegand,* nos. 3,840, 3,841) seem to belong here.

GRAY HERBARIUM.